

**What Is Claimed Is:**

1 1. An arrangement for processing external-services data for use in a user facility,  
 2 the arrangement comprising:  
 3 an audio, video, and data signal bussing arrangement adapted to distribute audio,  
 4 video, and data to designated points in the user facility;  
 5 a plurality of appliances communicatively coupled to the bussing arrangement,  
 6 wherein the plurality of appliances are adapted to process at least one of: audio, video,  
 7 and data signals;  
 8 a network interface unit (NIU) adapted to communicatively couple the external  
 9 services data over the bussing arrangement and with the plurality of appliances in the  
 10 user facility; and  
 11 a user input device adapted to command the NIU to process the external-services  
 12 data for use at a particular one of the plurality of appliances in the user facility.

1 2. An arrangement for processing external-services data for use in a user facility,  
 2 according to claim 1, wherein the user input device includes one of the plurality of  
 3 appliances.

1 3. An arrangement for processing external-services data for use in a user facility,  
 2 according to claim 1, wherein the plurality of appliances includes at least one of: a TV,  
 3 a phone, a computer, a printer, a videophone, a videocassette recorder, an analog  
 4 recorder, a digital recorder, a stereo, a camera, a wireless phone, an intercom, an audio  
 5 speaker, and a pager.

1 4. An arrangement for processing external-services data for use in a user facility,  
 2 according to claim 1, wherein the user input device includes at least one of: a TV, a  
 3 phone, a computer, a videophone, a videocassette recorder, a wireless phone, an audio  
 4 speaker, a pager, a remote control, a modem, a voice recognition system, an Internet  
 5 access device, a keypad, and a touch screen.

1 5. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 1, wherein the bussing arrangement includes at least one of: a  
3 coaxial cable, a telephony line, a T1 line, an ISDN line, a DSL line, an infrared  
4 transmitter, a wireless transmitter, a telephone modem, a wireless modem, a cable  
5 modem, a broadband modem, and a computer network.

1 6. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 1, wherein the user input device includes a television remote adapted  
3 to select NIU commands from a display generated by the NIU and displayed on the  
4 television.

1 7. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 1, wherein the user input device includes a telephone adapted to  
3 select NIU commands from a command menu programmed into the NIU.

1 8. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 1, wherein the NIU is further adapted to configure the external  
3 services data for use at a particular one of the plurality of appliances.

1 9. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 8, wherein the external services data includes audio and video data,  
3 and wherein the NIU is adapted to configure the audio data for use at an audio appliance  
4 and to configure the video data for use at a video appliance.

1 10. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 1, further comprising a data memory circuit coupled to the NIU and  
3 adapted to store data.

- 1 11. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 10, wherein the NIU is adapted to store incoming external services  
3 data until a routing command is received from the user input device.
- 1 12. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 11, wherein the user input device is adapted to communicate with the  
3 NIU and determine the type of data that is stored.
- 1 13. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 12, wherein the user input device is adapted to determine the source  
3 of the data.
- 1 14. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 10, wherein the NIU is adapted to store configuration information in  
3 the data memory circuit, wherein the configuration information includes routing  
4 information for external services data.
- 1 15. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 1, wherein the external-services data includes data having a first data  
3 form, and wherein the NIU is adapted to convert the external services data into a second  
4 data form for use by a particular one of the plurality of appliances.
- 1 16. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 15, wherein the first data form includes packet-based data, and  
3 wherein the second data form includes non-packet-based data.
- 1 17. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 15, wherein the first data form includes word processing data, and  
3 wherein the second data form includes audio data.

1 18. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 17, wherein the first data form includes an email message, and  
3 wherein the NIU is adapted to read and convert the email into an audio message.

1 19. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 15, wherein the first data form includes audio data, and wherein the  
3 second data form includes word processing data.

1 20. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 1, wherein the user input device is further adapted to include a  
3 security code, and wherein the NIU is further adapted to respond only to commands  
4 having the security code.

1 21. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 1, wherein the plurality of appliances include a TV, and wherein  
3 NIU is adapted to display the configuration of the plurality of appliances on the TV  
4 screen.

1 22. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 21, and wherein the configuration data includes telephone data  
3 including at least one of: the telephone number assigned to the phone, call waiting  
4 options, caller ID options, answering options, forwarding options, message storage  
5 options, call blocking options, and call screening options.

1 23. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 21, wherein the user input device is adapted to command the NIU  
3 based upon the configuration display on the TV screen.

1 24. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 11, wherein one of the plurality of appliances includes a display, and

3 wherein the NIU is adapted to display the stored incoming external services data on the  
4 display.

1 25. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 24, wherein the user input device is adapted to command the NIU  
3 based upon the displayed incoming external services data.

1 26. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 25, wherein the NIU is adapted to display email, audio messages,  
3 and video messages, and wherein the user input device is adapted to respond to an input  
4 corresponding to the displayed information and to command the NIU to route the  
5 displayed information to a particular one of the plurality of appliances.

1 27. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 11, further comprising a local data memory circuit coupled to the  
3 NIU, wherein the data is stored in the local data memory circuit.

1 28. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 11, wherein the data is stored at a location external from the NIU.

1 29. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 1, wherein the NIU includes a processor adapted to function as an  
3 answering machine for incoming telephony calls.

1 30. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 1, wherein the user input device is coupled to the bussing  
3 arrangement and uses the bussing arrangement to command the NIU.

1 31. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 30, wherein the NIU is adapted to receive configuration information

3 in the form of DTMF tones, wherein the bussing arrangement includes a two-wire  
4 analog system, and wherein the user input device is adapted to send control signals to  
5 the NIU including DTMF tones.

1 32. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 1, wherein the user input device is adapted to send control signals to  
3 the NIU that are configured to enable the control of external-data services including at  
4 least one of: caller ID information, address book information, pay-per-view access  
5 information, downloadable multimedia information, dynamically allocable telephone  
6 numbers, call forwarding, message on hold, directory assistance, and household systems  
7 control information.

1 33. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 1, wherein the NIU includes a printed circuit board (PCB) having at  
3 least one general processor and at least one specific processor adapted to process video  
4 data.

1 34. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 33, wherein the PCB includes a RISC processor.

1 35. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 33, wherein the PCB includes a DSP processor.

1 36. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 1, wherein each of the plurality of appliances is adapted to deliver  
3 status information signals to the NIU including the status of the appliance sending the  
4 signal, further comprising a user interface device adapted to access and provide the  
5 status information to a user.

1 37. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 1, wherein the plurality of appliances includes a microphone adapted  
3 for use in an intercom system.

1 38. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 37, further comprising a monitoring device coupled and adapted to  
3 receive audio signals from the microphone and, responsive to detecting an audio signal  
4 above a threshold level, send an alert signal to a user via the NIU.

1 39. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 38, wherein the microphone is located near an infant, and the system  
3 is used to monitor the infant.

1 40. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 39, wherein the alert includes a page signal.

1 41. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 38, wherein the microphone is adapted to monitor noise for security  
3 monitoring.

1 42. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 1, further comprising an appliance interface device coupled to an  
3 appliance and to the bussing arrangement and adapted to receive a first type of signal  
4 and convert the data signal to a second type of data signal.

1 43. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 42, wherein the appliance interface device is further adapted to  
3 receive a signal via a first type of communications line and to transmit the signal via a  
4 second type of communications line.

1 44. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 42, wherein the appliance interface device is programmable via a  
3 user input.

1 45. An arrangement for processing external-services data for use in a user facility,  
2 according to claim 42, wherein the appliance interface device is programmable by an  
3 external-services provider via the NIU.

1 46. A network interface system for interfacing different types of communication  
2 systems including a first user-based communication system and a packet-based  
3 communication system, comprising:  
4 a data memory circuit adapted to store configuration data;  
5 a user communication device;  
6 a processor arrangement adapted to write configuration data into and read  
7 configuration data from the memory circuit and to provide data for presenting  
8 configuration information for accessing at the user communication device, further  
9 adapted to process data received from, and exchange processed data between, the first  
10 user-based communication system and the packet-based communication system, and, in  
11 response to the configuration data, also adapted to route selected information provided  
12 by the packet-based communication system to selected channels of the first user-based  
13 communication system;  
14 user input means for inputting configuration-defining control signals, wherein  
15 the processor arrangement responds to the configuration-defining control signals by  
16 changing the configuration data in the memory circuit and by rerouting selected  
17 information provided by the packet-based communication system to selected channels  
18 of the first user-based communication system according to the configuration-defining  
19 control signals.

1 47. A network interface system, according to claim 46, further comprising a network  
2 system coupled to the first user-based communications system.



1 48. A network interface system, according to claim 46, wherein the user input means  
2 includes at least one of: an IR key panel, a wall-mount unit for the system, a TV, a  
3 telephone, a computer, a videophone, a videocassette recorder, a wireless phone, a  
4 remote control, a modem, a voice recognition system, an Internet access device, a  
5 keypad, and a touch screen.

1 49. A network interface system, according to claim 46, wherein the processor  
2 arrangement is further adapted to write configuration data into the memory circuit in  
3 response to signals received from the packet-based communication system

1 50. A network interface system, according to claim 46, wherein the processor  
2 arrangement is further adapted to permit reconfiguration in response to a user-provided  
3 security code.

1 51. A network interface system, according to claim 46, wherein the user  
2 communication device includes at least one of: a TV monitor, a printer, and computer.

1 52. A network interface system, according to claim 46, wherein the user  
2 communication device includes a voice generating unit adapted to produce prerecorded  
3 messages.

1 53. A network interface system, according to claim 46, wherein the user input means  
2 includes a computer adapted to communicate on the Internet.

1 54. A network interface system, according to claim 46, wherein the packet-based  
2 communication system includes at least one of: a cable modem, a wireless modem, a  
3 broadband modem, a telephone modem, a DSL, a T1 line, and a computer network.

1 55. A network interface system for interfacing different types of communication  
2 systems including a first user-based communication system and a packet-based  
3 communication system, comprising:  
4 a data memory circuit adapted to store data;  
5 a user communication device;  
6 a processor arrangement adapted to write data-intercept select data into and read  
7 data-intercept select data from the memory circuit and to provide data for  
8 communicating with a user via the communication device, further adapted to process  
9 data received from, and exchange processed data between, the first user-based  
10 communication system and the packet-based communication system, and, in response to  
11 the data in the data memory circuit, also adapted to intercept information from the  
12 packet-based communication system and to store the intercepted information in the data  
13 memory circuit;  
14 user means for inputting message-retrieval control signals, wherein the processor  
15 arrangement responds to the message-retrieval control signals by displaying messages  
16 (email, voice mail, etc.) from the data memory circuit.

1 56. A network interface system, according to claim 55, wherein the user input means  
2 is at least one of: an IR key panel, a wall-mount unit for the system, a TV, a telephone,  
3 a computer, a videophone, a videocassette recorder, a wireless phone, a remote control,  
4 a modem, a voice recognition system, an Internet access device, a keypad, and a touch  
5 screen.

1 57. A network interface system, according to claim 55, wherein the processor  
2 arrangement is further adapted to write data-intercept select data into the memory circuit  
3 in response to signals received from the packet-based communication system

1 58. A network interface system, according to claim 55, wherein the processor  
2 arrangement is further adapted to write data-intercept select data into the memory circuit  
3 in response to signals received from the input means.

- 1 59. A network interface system, according to claim 55, wherein the user  
2 communication device includes a TV monitor.
- 1 60. A network interface system, according to claim 55, wherein the user  
2 communication device includes a voice generating unit adapted to produce prerecorded  
3 messages.
- 1 61. A network interface system, according to claim 60, wherein the voice generating  
2 unit audibly produces the prerecorded messages over the user communication device.
- 1 62. A network interface system, according to claim 61, wherein the user  
2 communication device is communicating a first audio signal, and wherein the  
3 prerecorded messages are audibly produced at a sound level over that of the first audio  
4 signal.
- 1 63. A network interface system, according to claim 55, wherein the user  
2 communication device includes a computer adapted to communicate on the Internet.
- 1 64. A network interface system, according to claim 55, wherein the packet-based  
2 communication system includes at least one of: a cable modem, a wireless modem, a  
3 broadband modem, a telephone modem, a DSL, a T1 line, and a computer network.
- 1 65. A method for controlling communications data in a communications system  
2 having a NIU, a user interface device, a plurality of communications appliances, and a  
3 bussing system, the method comprising:  
4 using the user interface device and programming the NIU with configuration  
5 information for external-services data;  
6 receiving external-services data at the NIU;

7 responsive to the configuration information, configuring the received external-  
8 services data and transferring the configured data via the bussing arrangement to one of  
9 the communications appliances; and  
10 receiving the transferred external-services data at the one communications  
11 appliance.

1 66. The method of claim 65, wherein programming the data receiving unit with  
2 configuration information includes programming routing information for routing the  
3 external-services data to particular ones of a plurality of communications devices.

1 67. The method of claim 66, wherein the particular ones of a plurality of  
2 communications devices include a telephony device, and wherein the routing data  
3 includes the assignment of a particular telephone number to the telephony device.

1 68. The method of claim 66, wherein the particular ones of a plurality of  
2 communications devices include an Internet device, and wherein the routing data  
3 includes the assignment of a particular Internet protocol address to the Internet device.

1 69. The method of claim 66, wherein the particular ones of a plurality of  
2 communications devices include a TV, and wherein the routing data includes the  
3 assignment of a particular television subscription package to the TV.

1 70. The method of claim 65, wherein using the user interface device and  
2 programming the NIU with configuration information for external-services data  
3 includes programming from an external-services provider location, wherein the  
4 configuration information controls the type of external services that the NIU passes to  
5 the plurality of communications devices.

